MIGUEL **JIMENEZ**

🎓 EDUCATION

2016 | Present

Ph.D. in Computer Science
University of Victoria · GPA: 3.85 / 4
Victoria, Canada 📍
Ongoing Continuous Software Evolution at Run-time

2014 | 2016

M.Sc. in Software Engineering
Universidad Icesi · GPA: 3.87 / 4
Cali, Colombia 📍
Thesis A Framework for Generating and Deploying Dynamic Performance Monitors for Self-Adaptive Systems

2009 | 2014

B.E. in Systems Engineering
Universidad Icesi · GPA: 3.21 / 4
Cali, Colombia 📍
Honors Engineering Dean's list in semesters VI, VII, VIII, & IX
Thesis PaSCAni: A language for V&V of Functional Requirements at Runtime (in Spanish)

Courses

Entrepreneurship Laboratory with Mobile Technologies —2012
Massachusetts Institute of Technology + **Universidad Icesi**

Introduction to OpenStack (online) —2018
EDX

💼 EXPERIENCE

2016 | present

IBM Lead Student
University of Victoria + IBM Advanced Studies
Victoria, Canada 📍

· Conduct research and collaborate with the team behind IBM Cloud Automation Manager to develop round-trip engineering mechanisms for Infrastructure as Code and automating continuous experimentation for deployments on the cloud

2014 | 2016

Graduate Research Assistant
Universidad Icesi
Cali, Colombia 📍

· Identified challenges in dynamic performance monitoring of Self-Adaptive Systems and proposed technical solutions following the SOA philosophy to advance the state of the art
· Designed and implemented two domain-specific languages for dynamic monitoring and distributed deployment
· Managed the computing resources of the DRISO research group's computing grid (~15 physical machines)

2012 | 2015

Freelance Developer
Cali, Colombia 📍

· Designed and implemented an online auction application for the Colombian headquarters of LaFrancol laboratories, a pharmaceutical company
· Designed and implemented a management web application to support the Purchasing Department at Carvajal Espacios, a Colombian company leader in trends in design and office furniture
· Designed and implemented corporate websites and supporting sites (e.g., tutorials & tickets) for small Colombian companies, including SQL Soluciones Infomáticas, Ecohotel el Castillo, Juan Felipe Velez Accountant and Z-Graphics

📁 SELECTED PROJECTS

2018

TORNADO
University of Victoria + IBM

· Created Tornado, a two-way continuous integration framework for DevOps that enables bidirectional traceability of changes and transformation between a running system and its deployment specifications
· Implemented a proof of concept of Tornado that updates version-controlled Terraform specifications according to changes to an OpenStack deployment
· Source code is available online at github.com/rigiresearch/jachinte-DevOps2018-evaluation
Technologies Java, Maven, Eclipse Modeling Framework, OpenStack, Terraform, Docker, CircleCI

2018

EXAMGEN
University of Victoria

· Created a CLI application and YAML DSL to generate examinations based on a target technology (e.g., Latex and Moodle)
· By creating Examgen, we stopped printing 2800 exams and reduced marking time by 30h per term
· Source code and documentation are available online at github.com/rigiresearch/examgen
Technologies Java, Xtend, Maven, Spring Boot

2015 | 2017

AMELIA
Universidad Icesi + Carvajal T&S

· Created Amelia, a compact domain-specific language tailored for specifying and executing deployment workflows for distributed software systems
· We used Amelia's composable and extendable subsystems to specify and deploy 324 architectural configurations to re-design the reference architecture of a software family at Carvajal T&S, improving its throughput by a factor of five
· Source code, documentation and evaluation are available online at github.com/unicesi/amelia and github.com/unicesi/amelia-evaluation
Technologies Java, Xtend, Xtext, Maven, Rultor

CONTACT INFO

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📞 +1 778-533-0364

SOCIAL LINKS

 github.com/jachinte
 twitter.com/jachinte
 stackoverflow.com

SKILLS

Computer Languages

Java, Xtend
JavaScript
C
Python
C#
Oz
Shell Script
SQL
HTML5
CSS3 & Pre-Processors

Technical Skills

Architecture Design
Build Automation
Containerized Applications
Continuous Delivery
Data Mining (basic)
Infrastructure Provision
Language Engineering
Microservices Architecture
Object-Oriented Programming
Performance Monitoring
Service Component Architecture

Languages

Spanish (native)
English (fluent)
French (basic)

📄 PUBLICATIONS

Journal Articles

- H. Arboleda, A. Paz, **M. Jiménez**, and G. Tamura, "Development and Instrumentation of a Framework for the Generation and Management of Self-Adaptive Enterprise Applications" Ing. Univ., vol. 20, no. 2, pp. 303-333, 2016.

Refereed Conference Proceedings

- Rivera, L. F., Villegas, N. M., Tamura G., **Jiménez M.**, and Müller H.. 2018. UML-Driven Automated Software Deployment. In Proceedings of the 28th Annual International Conference on Computer Science and Software Engineering. IBM Corp., 2018 (CASCON'18). In press; 12 pages.
- **Jiménez, M.**, Villegas, N. M., Tamura, G., and Müller, H. A.. 2017. Deployment Specification Challenges in the Context of Large Scale Systems. In Proceedings of 27th Annual International Conference on Computer Science and Software Engineering, Markham, Ontario, Canada, November 2017 (CASCON'17), 7 pages.
- Angara, P., **Jiménez, P.**, Agarwal, K., Jain, H., Jain, R., Stege, U., Ganti, S., Müller, H. A.. 2017. Foodie Fooderson A Conversational Agent for the Smart Kitchen. In Proceedings of 27th Annual International Conference on Computer Science and Software Engineering, Markham, Ontario, Canada, November 2017 (CASCON'17), 7 pages.
- Arboleda, H., Paz, A., **Jiménez, M.**, Tamura, G., "A Framework for the Generation and Management of Self-Adaptive Enterprise Applications" Computing Colombian Conference (10CCC), 2015 10th, Bogota, 2015, pp. 55-62.

Refereed Symposiums and Workshops

- **Jiménez, M.**, Villegas, N. M., Tamura, G., and Müller H.. DevOps Round-trip Engineering: Traceability from Dev to Ops and Back Again. In First international workshop on software engineering aspects of continuous development and new paradigms of software production and deployment, Toulouse, France, 2018. Springer International Publishing. In press; 15 pages.
- **Jiménez, M.**, Rivera, L. F., Villegas, N. M., Tamura, G., Müller H., and Gallego P. DevOps' Shift-Left in Practice: An Industrial Case of Application. In First international workshop on software engineering aspects of continuous development and new paradigms of software production and deployment, Toulouse, France, 2018. Springer International Publishing. In press; 15 pages.
- Bruel, J.M. and **Jiménez, M**. DevOps'18 Education Panel: Teaching Feedback and Challenges. In First international workshop on software engineering aspects of continuous development and new paradigms of software production and deployment, Toulouse, France, 2018. Springer International Publishing. In press; 5 pages.
- **Jiménez, M.**, Villota Gomez, A., Villegas, N. M., Tamura, G., and Duchien, L. (2014, September). A Framework for Automated and Composable Testing of Component-based Services. In Maintenance and Evolution of Service-Oriented and Cloud-Based Systems (MESOCA), 2014 IEEE 8th International Symposium on the (pp. 1-10). IEEE.

👥 SELECTED POSTERS AND TALKS

Assurance of Non-Functional Requirements Through Continuous Experimentation

- 🇨🇦 CASCON 2018, November 2018. Markham, Canada (Slides)

DevOps Round-trip Engineering: Continuous Integration from Dev to Ops and Back

- 🇫🇷 DEVOPS 2018, March 2018. Toulouse, France (Slides)
- 🇺🇸 URMD CRA Grad Cohort Workshop, March 2018. San Diego, United States (Poster)
- 🇨🇦 CSER Spring Meeting, May 2018. London, Canada (Slides)

Deployment Specification Challenges in the Context of Large-Scale Systems

- 🇨🇦 CASCON, November 2017. Markham, Canada (Slides, Poster, Petcha kutcha)
- 🇺🇸 URMD CRA Grad Cohort Workshop, March 2018. San Diego, United States (Poster)

👥 MENTORING EXPERIENCE

2015

Knowledge Management and Dissemination: Alternative Soccer Culture

- Role: Technical Advisor
- Undergraduate degree project, Interactive Media Design Program — Universidad Icesi
- Student: Juan David Flórez Bautista

2014

Folii: Natural and Interactive Encyclopedia Mediated by Citizen Science

- Role: Tutor
- Undergraduate degree project, Interactive Media Design Program — Universidad Icesi
- Students: Juan Pablo Pérez, Mauricio Alberto Toro

📓 TEACHING ASSISTANT EXPERIENCE

University of Victoria
Victoria, Canada 📍

- Assistance Centre in Computer Science - Spring 2018
- Fundaments of Programming with Engineering Applications - Falls 2016, 2017
- Data Structures I - Fall 2016

Universidad Icesi
Cali, Colombia 📍

- Web programming (Computer Tech Club) - Springs 2012, 2013
- Data Structures and Algorithms - Spring 2011